

THE MERCK INDEX

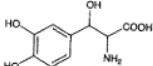
AN ENCYCLOPEDIA OF
CHEMICALS, DRUGS, AND BIOLOGICALS

TWELFTH EDITION

Susan Budavari, *Editor*
Maryadele J. O'Neil, *Senior Associate Editor*
Ann Smith, *Associate Editor*
Patricia E. Heckelman, *Assistant Editor*
Joanne F. Kinneary, *Assistant Editor*

Published by
Merck Research Laboratories
Division of
MERCK & CO., INC.
Whitehouse Station, NJ

1996



Crystals from ethanol and ether, mp 223–225° (dec). $[\alpha]_D^{25}$ –39° ($c = 1$ in 1N aq HCl). Also cited as crystals from water and L-ascorbic acid, mp 229–232° (dec) (Ohashi). $[\alpha]_D^{25}$ –42.0° ($c = 1$ in 1N aq HCl).

THERAP CAT: Antiparkinsonian.

3514. DSIP. Delta sleep-inducing peptide (rabbit); delta sleep peptide; delta sleep factor. $C_{14}H_{20}N_2O_5$ mol wt 848.82. C 49.53%, H 5.70%, N 16.50%, O 28.27%. A nonapeptide with enhancement and induction of delta (slow-wave) and spindle EEG patterns. Its occurrence was suspected during dialysis of venous blood of rabbits during sleep induced by electrical stimulation of the thalamus: M. Monnier, L. Hirsch, *Science* **146, 796 (1964). Involins: *eidem*. *Pflügers Arch.* **282**, 60 (1965). Isolation, characterization: G. A. Schoenenberger *et al.*, *Experientia* **28**, 919 (1972). Amino acid sequence, synthesis of DSIP and analogs: G. A. Schoenenberger, M. Monnier, *Proc. Nat. Acad. Sci. USA* **71**, 1226 (1974). Solid phase synthesis: Y. P. Shvachkin *et al.*, *Zh. Obshch. Khim.* **51**, 719 (1981). *C.A.* **95**, 43644s (1981). Rapid liquid phase synthesis: T. Sasaki, I. Muramatsu, *Bull. Chem. Soc. Japan* **55**, 2165 (1982). HPLC separation: M. Dizayoglu *et al.*, *J. Chromatogr.* **197**, 417 (1982). Effect on human sleep: D. Schneider-Helmert *et al.*, *Lancet* **1**, 1256 (1981); *eidem*. *Int. J. Clin. Pharmacol. Ther. Toxicol.* **19**, 341 (1981); D. Schneider-Helmert, G. A. Schoenenberger, *Experientia* **37**, 913 (1981).**

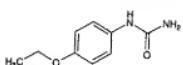
Trp-Ala-Gly-Gly-Asp-Ala-Ser-Gly-Glu

3515. DTBP. Bis(1,1-dimethylethyl) peroxide; di-tert-butyl peroxide. $C_8H_{16}O_2$ mol wt 146.23. C 65.71%, H 12.41%. O 21.88%. d^2P_{40}/d^2P_{25} 1.77. d^2P_{40}/d^2P_{10} 1.88. Flash pt (TGA open cup) 65°F (17°C). Soluble in organic solvents, in most resin monomers, and in partial polymers. Soluble in water about 0.01%.

USE: As polymerization catalyst.

3516. Dulcamara. Bittersweet; woody nightshade; scarlet berry. Dried stems of *Solanum dulcamara* L., *Solanaceae*. Habit: Europe, Western Asia, Northern Africa, natural in U.S. Constit: Solanine (about 1%), dulcamarin, dulcamaric acids.

3517. Dulcine. (4-Ethoxyphenylurea; p-phenoxyacetamide; p-phenyleneurea; Sucrol; Valzin. $C_9H_{12}N_2O_2$ mol wt 181.21. C 59.99%, H 6.71%, N 15.55%. O 17.76%. Made by treating p-phenetidine with phosgene and then with ammonia: Berlinerblau, *J. Prakt. Chem.* **30, 103 (1883); from p-phenetidine and urea: Kurzer, *Org. Syn. coll. vol. IV*, 52 (1963).**

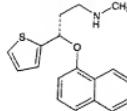


Lustrous needles; very sweet taste—about 250 times as sweet as cane sugar, mp 173–174°. Sol in 800 parts cold water; 50 parts boiling water, 25 parts alcohol.

USE: Non-nutritive sweetener.

3518. Duloxetine. (S)-N-Methyl- γ -(1-naphthoylexoxy)-2-thiophenepropanamine; (–)(S)-N-methyl-2-(1-naphthyl-oxy)-3-(2-thienyl)propanamine; (–)-N-methyl-3-(1-naphthyl-oxy)-2-thiophenepropylamine; LY-248646. $C_{19}H_{21}NO_2S$ mol wt 297.42. C 72.69%, H 6.44%, N 4.71%, O 5.38%, S 10.78%. Dual serotonin and norepinephrine uptake inhibitor. Prepn: D. W. Robertson *et al.*, *Eur. pat. Appl.* **273,658; *eidem*, U.S. pat. **5,023,269** (1988, 1991 to Lilly), and wts config: J. Deeter *et al.*, *Tetrahedron Lett.***

3519. 31, 7101 (1990). Improved process: R. A. Berglund, U.S. pat. **5,362,886 (1994 to Lilly). Pharmacology: D. T. Wong *et al.*, *Neuropsychopharmacology* **8**, 23 (1993). Neurochemical effects *in vivo*: R. W. Fuller *et al.*, *J. Pharmacol. Exp. Ther.* **269**, 132 (1994). Determin of chiral purity: E. C. Rickard, R. J. Bopp, *J. Chromatogr. A* **680**, 609 (1994).**



Hydrochloride, $C_{14}H_{19}NOS \cdot HCl$. White solid. pKa in DMF-water (66.34): 9.0.

THERAP CAT: Antidepressant.

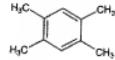
3519. Durapatite. Hydroxylapatite; calcium phosphate hydroxide; calcium orthophosphate basic; hydroxyapatite; Alveograf; Ossopen; Perioral. $3Ca_3(PO_4)_2 \cdot Ca(OH)_2$ or $Ca_9(PO_4)_6(OH)_2$. Also considered a pentacalcium monohydrogen orthophosphate: $Ca_5(OH)PO_4$. Calcul'd as $Ca_{10}H_2O_4P_6O_{18}$. Calc'd 39.8%; H 0.20%; O 41.41%; P 18.50%. Occurs as a mineral in phosphate rocks and constitutes the mineral portion of bone. Prepn from $Ca(NO_3)_2$ and KH_2PO_4 : Warington, *J. Chem. Soc.* **26, 983 (1873); Rath, *Mineralog. Mag.* **34** (1941); Hayek in *Handbook of Preparative Inorganic Chemistry*, G. Brauer, Ed. (Academic Press, 2nd ed., 1963) p 545; from calcium phosphate, dibasic: Perloff, Posner, *Inorg. Chem.* **6**, 16 (1960); from $Ca(NO_3)_2 \cdot 4H_2O$ and $(NH_4)_2HPO_4$: Smith, *Analyst* **81**, 76 (1956); *ibid.* **7**, 63 (1963). Formation and structure of synthetic hydroxyapatites: A. S. Posner *et al.*, *Prog. Cryst. Growth Charact.* **3**, 1 (1980).**

Hexagonal needles arranged in rosettes. Dissolves above 1100°. Practically insol in water, even when freshly prep'd. Crystallographic data: a 9.422; c 6.935; C_{48}/a , 0.736.

USE: Prosthetic aid (artificial bone and teeth).

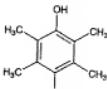
THERAP CAT: Calcium supplement; phosphorus supplement.

3520. Durone. 1,2,4,5-Tetramethylbenzene; Durol. $C_{10}H_{16}$ mol wt 134.22. C 89.49%, H 10.51%. Occurs in coal tar. Usually prep'd from xylene and methyl chloride in the presence of $AlCl_3$: Smith, *Org. Syn. vol. 10*, 32 (1930); cf. Smith, Dobrovolsky, *J. Am. Chem. Soc.* **48, 1413 (1926).**



Scales with camphor-like odor from alcohol. d_4^{20} 0.84. mp 80°. bp 191–193°. Sublimes and is volatile with steam. Insol in water; freely sol in alcohol, ether, benzene.

3521. Durohydroquinone. 2,3,5,6-Tetramethyl-1,4-benzenediol; tetramethyl-p-hydroquinone; dihydroxydurene; $C_9H_{12}O_2$ mol wt 166.22. C 72.26%, H 8.49%, O 19.25%. For prep see refs under Duroquinone.



Needles from alcohol, mp 233°. Begins to sinter at 220°. Sparingly sol in ether. Treatment with ferric chloride yields duroquinone.

Diacetylhydroquinone, needles from alc. mp 207°.

3522. Duroquinone. 2,3,5,6-Tetramethyl-2,5-cyclohexadiene-1,4-dione; tetramethyl-p-hydroquinone. $C_9H_{12}O_2$ mol wt 164.20. C 73.15%, H 7.37%, O 19.49%. Prep by reduc-